Modern approaches to the near-real-time seismic monitoring component of tsunami hazard mitigation

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Abstract. A critical aspect of tsunami detection and timely notification for evacuation purposes is the fast, accurate characterization of the source earthquake. This need encompasses a broad range of tasks, from broadband seismic station design and installation to robust, modern, automated data-analysis systems to effective analyst-review and community-notification tools through various media. We present our experiences with the design and installation of the Alaskan broadband seismic stations funded through the CREST Federal/State Tsunami Monitoring Initiative. We explain in overview terms the seismic dataflow, automated near-real-time processing, and 24-hour alarm-event analyst review accomplished with the Iceworm system. Finally, we discuss our notification strategies for distributing timely information on large earthquakes to members of the public and the hazard-response community.

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